



**ENVIRONMENTAL
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July 28, 2010

Mr. Sam Unger
Interim Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West Fourth Street; Suite 200
Los Angeles, California 90013

RE: TENTATIVE CLEANUP AND ABATEMENT ORDER NO. R4-2010-00XX

This letter has been prepared to provide comments on the Tentative Cleanup and Abatement Order No. R4-2010-00XX (TCAO) issued by the Los Angeles Regional Water Quality Control Board (LARWQCB) for the Former Carson Kast Tank Farm (Kast or Site). Our comments are based on our review of the TCAO and significant firsthand knowledge of the Site gained after nearly one year of investigation and field testing conducted on behalf of the residents of the Carousel Tract. Over this year of testing, Environmental Engineering and Contracting, Inc. (EEC) has directly observed the tremendous negative impact this contamination has had on the well being of this community, ranging from the significant intrusion caused by drilling activities inside and outside residential homes to children being prohibited from playing in their own backyard. In general, EEC finds the TCAO to be moving in the right direction, however, it stops short of measures necessary for the protection of the residential community that has unfortunately been constructed on the Site. We have limited our comments to five major technical themes, as follows:

1. Consolidation of 285 residential properties into a single site, or operable unit, for the purpose of risk assessment and mitigation.
2. Development of remedial strategies for all soil, soil vapor, and groundwater regardless of depth.
3. Classification of the entire 55-acre parcel as an illegal disposal site.
4. Implement a stringent wide-ranging plan for investigation and mitigation of methane vapors.
5. Development of appropriate remedial goals for all impacted media, so that pertinent remedial strategies can be evaluated.

These comments are each discussed in the following sections.

COMMENT 1 – CONSOLIDATION TO ONE SITE

The 285 residential properties constructed within the boundaries of Shell's Former Kast Tank Farm should be consolidated into a single site for the purpose of investigation, risk assessment, and remediation of all three medias of concern (soil, soil vapor and groundwater). This effectively results in the classification of the site as an Operable Unit, as defined by the EPA. Consideration of the site as a single Operable Unit is also

supported by our contention that the entire 55 acre site should be considered an Illegal Disposal Site, as discussed in more detail in Comment 4.

As it is currently written, the TCAO treats the 55 acre Kast Site as 285 subdivided parcels rather than a single Operable Unit. The term Operable Unit is defined as “a group of one or more clean-up sites that have similar characteristics, such as contaminants, industrial processes, or location.” In the case of the Carousel neighborhood, the contaminants, the contaminant release mechanism, and the location are all the same. Historically the Site was uniformly owned and used as a crude and bunker oil tank farm with three tanks of similar construction. Currently, the same contaminants show up in the laboratory analysis and risk assessments performed for each property by Shell. Further, Shell has created a single uniform waste profile for all waste soil generated at the Site due to the uniformity of data from investigations to date. This profile allows them to confidently ship waste offsite each day under a non-hazardous waste manifest, which would be illegal unless the soil was already accurately profiled. Shell has sufficient confidence that soil generated from any residential property will upon receipt of analytical data be similar in nature to waste soil generated from other portions of the Site. If Shell believed that each residence should be treated individually, then separate waste profiles should have been conducted for each residential property tested. Thus, using the same logic used by Shell, the subdivided parcels at the site should be considered one Operable Unit for risk assessment and remediation purposes.

Additionally, we contend that the Site meets the California Integrated Waste Management Boards (CIWMB) definition of an illegal disposal site, and as such investigation and remedial actions must consider a single site-wide investigation and remedial strategy, and include input from other local regulatory agencies as described in Comment 3. This again effectively necessitates the Site being considered a single Operable Unit.

COMMENT 2 – REMEDIATE ALL MEDIA AT ALL DEPTHS

The TCAO should be updated where appropriate to require delineation and mitigation of contaminants in soil, soil vapor, and groundwater at any depth where concentrations pose a threat to human health and the environment beneath the Site. While shallow soils are often defined as those between ground surface and a depth of 10 feet, there are significant impacts to soil and soil vapor below 10 feet that require remediation to protect the residents of the Carousel Community and future Site use. An appropriate solution for the Site includes full remediation and not partial step-wise remedial actions that prolong the process and cause further unnecessary disruption to a residential neighborhood. The soil vapor extraction and excavation of exposed soils specified in the TCAO are both partial and temporary solutions.

Again, we have observed first hand, the high degree of contamination that exists beneath a depth of 10 feet, both in soil borings conducted by Shell’s consultant, URS Corp., and while performing our own test pits. During the excavation of the test pits, we observed free phase hydrocarbons surrounding a concrete slab at 9 feet bgs. Once we had excavated beneath the slab we observed continuing odorous hydrocarbon stained soil. These observations correlate to similar observations of prolific hydrocarbon

staining at depths of 30 feet below the surface made by consultants nearly 45 years earlier (1966) during Shell's ownership of the property.

COMMENT 3 – ILLEGAL DISPOSAL SITE

The Kast Site meets the definition of an Illegal Disposal Site (IDS) per the definition of the California Integrated Waste Management Board. This classification is applicable to the Kast property, because material disposed beneath the Site consisted of petroleum contaminated concrete debris and petroleum residual. In fact, during applications to the Los Angeles County Regional Planning Commission to rezone this property, one of the conditions that the developer specified was to that the "existing hazardous storage tanks" would be removed from the Site. Upon successfully rezoning the property, the developer buried the contaminated concrete material, thereby creating an Illegal Disposal Site.

Although the County Building Department recognized and allowed the burying of concrete material seven feet or greater below grade, the developers did not represent that the concrete was impregnated with oil, and that oil residuals would be buried beneath the Site. Also it does not appear that any other appropriate public agency was made aware of the disposal practice, including the Regional Planning Commission whom approved the zoning change.

An Illegal Disposal Site is defined by the California Integrated Waste Management Boards (CIWMB) as:

1. Unauthorized disposal (e.g. by roadside, on vacant property, etc.) of solid waste on a site to the extent that cleanup may be required to protect public health and safety or the environment, and
2. The site was never permitted or intended to be permitted as a solid waste disposal site, and was not exempt from obtaining a permit.

The regulations and guidelines covering the investigation and cleanup of an Illegal Disposal Site can be found in the CIWMB's Site Investigation Process (formerly Advisory 3) and Advisory 16. Remediation of an IDS is defined in Advisory 16 as the complete removal of all waste and waste residuals, including contaminated soil from a solid waste disposal site; and is generally considered complete when waste materials and residuals are removed to a point where remaining contaminant concentrations are at or below background levels, or clean up levels established by regulation.

Three general options exists for an Illegal Disposal Site: 1) obtain a "Clean Closure" by removal of wastes from the facility; 2) formulate an alternative to clean closure – this option would leave a stigma attached and likely deed restrictions; and 3) obtain a solid waste facility permit to make the "illegal" site legal (if option #3 occurs site becomes an active solid waste landfill).

Local enforcement agencies (LEAs) are required to investigate and inspect closed, illegal, and abandoned disposal sites (CIA sites) pursuant to Title 14, California Code of Regulations (14 CCR) sections 18083 and 18303. Public Resources Code (PRC) section 45013 requires that the Board, upon request by the LEA, provide assistance in the inspection and investigation of CIA sites.

When a CIA site is located, it is the responsibility of the enforcement agency to inspect the site pursuant to Title 14, California Code of Regulations (14 CCR) sections 18083 and 18303. A procedure was developed for investigating and evaluating such sites. This procedure—termed the Site Investigation Process (SIP)—provides a method that allows the LEA and the Board staff to evaluate and identify a CIA site and to assess and determine the magnitude of potential hazard a CIA site might have on public health and safety and the environment.

The SIP provides:

- A standard investigation procedure for a one-time evaluation of CIA sites.
- Guidance for classification of sites with respect to public health and safety and the environment.
- A mechanism to ensure rapid response for sites requiring emergency action to protect public health and safety and the environment, or enforcement action to clean up illegal dumping.
- A mechanism to identify sites that warrant no further LEA action and therefore eliminate their inspection requirement in the LEA's Enforcement Program Plan (EPP).
- A mechanism to document the acceptability of reduced inspection frequency at appropriate sites.
- A technical basis for determination of appropriate closure, remediation, or corrective action and enforcement follow up.

In the case of the Kast Property, the following agencies at a minimum should be involved:

- County of Los Angeles, Department of Environmental Health Services, Environmental Protection Bureau, Solid Waste Management Program.
- Los Angeles County Fire Department – Hazardous Materials Management Division/CUPA.
- California Integrated Waste Management Board.
- California Regional Water Quality Control Board (RWQCB or Regional Board).
- City of Carson

Methane generated by an IDS is a common occurrence, and yet another reason why all appropriate agencies with this expertise should have input into the investigation and remediation of the Carousel Housing Tract. Methane concerns are discussed further in Comment 4 below.

COMMENT 4 – METHANE HAZARDS

Explosive concentrations of methane gas have been detected during site investigation activities conducted in the Carousel Tract. Sampling has indicated that, in places, soil gas underneath the Carousel Tract contains methane concentrations greater than 50% by volume. As the Regional Board is aware, the lower explosive limit for methane is 5.1% by volume. Therefore, there currently exists a potential for fire or explosion in the Carousel Tract.

The methane hazards are likely due to the Dischargers disposal practices of burying oil laden materials beneath the site (concrete would not produce methane gas). It is this disposal activity which has resulted in the generation of explosive levels of methane gases that pose clear and present danger of fire and explosion hazards.

EEC concurs with Mr. Jim Tarr of Stone Lyons Environmental Corporation that a thorough fire and explosion hazard assessment must be conducted. This assessment must be conducted by a qualified professional engineer for the purpose of protecting the community.

Based on the methane conditions that have already been documented, we also recommend implementation of a comprehensive methane mitigation and monitoring program. This program should follow and be consistent with the policies and procedures utilized by the City of Los Angeles, as specified in Los Angeles City Ordinance No. 175790 and 180619

COMMENT 5 – CLEANUP GOALS

EEC encourages the Regional Board and Office of Environmental Health Hazard Assessment (OEHHA) to work cooperatively with experts from Shell and the plaintiffs to quickly establish target cleanup goals for soil, soil vapor, indoor air and groundwater. Additionally, we believe it is necessary to gain input and concurrence with cleanup goals from the CIWMB, LACDEH, and LACFD due to the illegal disposal site issues. As you are aware, target cleanup goals logically drive the selection process for the most appropriate remediation technology. The most appropriate technologies should be selected based on several factors including: 1) the levels of restoration required to remediate soil, soil vapor, indoor air and groundwater; 2) the extent of demonstrated success in achieving same or similar levels of restoration for the contaminants; 3) the timeframe required to implement the remediation; and in this particular instance 4) the disruption to the lives of the residential community.

Formulation of cleanup goals will assist Shell in formulating appropriate remedial strategies, and not haphazardly conduct testing, that in all reality will likely be irrelevant. For instance, the current vapor extraction testing being performed, while potentially useful for mitigating vapors, will do nothing to mitigate SVOCs, which are causing the majority of the exceedances of cancer screening levels. Further, there have been discussions, including in this TCAO that shallow soils may be excavated to remove concrete debris. If such excavation did occur, then all SVE test data from the shallow interval currently being tested would be irrelevant, therefore, resulting in unnecessary inconveniences to the residents of the neighborhood.

CLOSING

Thank you for the opportunity to provide comments to the TCAO. To reiterate, we are pleased to see that the LARWQCB is pursuing mitigation of contaminants at the Site that pose a threat to the current residents. Likewise we have been greatly impressed by the attention and response that Regional Board staff has provided to this situation, from the day-to-day oversight of Regional Board Managers in the field to the Executive Officer providing the public with technical updates. We hope you seriously consider our comments and encourage you to modify the TCAO to support a mitigation approach that ultimately provides a safe environment and neighborhood that even Regional Board members would happily relocate yourselves and your families.

If you have any questions, please do not hesitate to call at (714) 667-2300.

Sincerely

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